WHAT IS CLAIMED IS:

1. An isolated nucleic acid selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 17, SEQ ID NO: 21, SEQ ID NO: 25, SEQ ID NO: 29, SEQ ID NO: 33, SEQ ID NO: 37, SEQ ID NO: 41, SEQ ID NO: 45, SEQ ID NO: 49, SEQ ID NO: 53, SEQ ID NO:57, SEQ ID NO:61, SEQ ID NO:65, SEQ ID NO:69, SEQ ID NO:73, SEQ ID NO:77, SEQ ID NO:81, SEQ ID NO:85, SEQ ID NO:89, SEQ ID NO:93, SEQ ID NO:97, SEQ ID NO:101, SEQ ID NO:105, SEQ ID NO:109, SEQ ID NO:113, SEQ ID NO:117, SEQ ID NO:121, SEQ ID NO:125, SEQ ID NO:129, SEQ ID NO:133, SEQ ID NO:137, SEQ ID NO:141, SEQ ID NO:145, SEQ ID NO:149, SEQ ID NO:153, SEQ ID NO:157, SEQ ID NO:161, SEQ ID NO:165, SEQ ID NO:169, SEQ ID NO:173; SEQ ID NO:177, SEQ ID NO:181, SEQ ID NO:185, SEQ ID NO:189, SEQ ID NO:193, SEQ ID NO:197, SEQ ID NO:201, SEQ ID NO:205, SEQ ID NO:209, SEQ ID NO:213, SEQ ID NO:217, SEQ ID NO:22, SEQ ID NO:225, SEQ ID NO:229, SEQ ID NO:233, SEQ ID NO:237, SEQ ID NO:241, SEQ ID NO:245, SEQ ID NO:249, SEQ ID NO:253, SEQ ID NO:257, SEQ ID NO:261, SEQ ID NO:265, SEQ ID NO:269, SEQ ID NO:273, SEQ ID NO:277 and SEQ ID NO:281.

2. An isolated polypeptide selected from the group consisting of SEQ ID NO: 2, SEQ ID NO: 6, SEQ ID NO: 10, SEQ ID NO: 14, SEQ ID NO: 18, SEQ ID NO: 22, SEQ ID NO: 26, SEQ ID NO: 30, SEQ ID NO: 34, SEQ ID NO: 38, SEQ ID NO: 42, SEQ ID NO: 46, SEQ ID NO: 50,SEQ ID NO: 54, SEQ ID NO:58, SEQ ID NO:62, SEQ ID NO:66, SEQ ID NO:70, SEQ ID NO:74, SEQ ID NO:78, SEQ ID NO:82, SEQ ID NO:86, SEQ ID NO:90, SEQ ID NO:94, SEQ ID NO:98, SEQ ID NO:102, SEQ ID NO:106, SEQ ID NO:110, SEQ ID NO:114, SEQ ID NO:118, SEQ ID NO:122, SEQ ID NO:126, SEQ ID NO:130, SEQ ID NO:134, SEQ ID NO:138, SEQ ID NO:142, SEQ ID NO:146, SEQ ID NO:150, SEQ ID NO:154, SEQ ID

NO:158, SEQ ID NO:162; SEQ ID NO:166,SEQ ID NO:170, SEQ ID NO:174, SEQ ID NO:178, SEQ ID NO:182, SEQ ID NO:186, SEQ ID NO:190, SEQ ID NO:194, SEQ ID NO:198, SEQ ID NO:202, SEQ ID NO:206, SEQ ID NO:210, SEQ ID NO:214, SEQ ID NO:218, SEQ ID NO:222, SEQ ID NO:226, SEQ ID NO:230, SEQ ID NO:234, SEQ ID NO:238, SEQ ID NO:242, SEQ ID NO:246, SEQ ID NO:250, SEQ ID NO:254, SEQ ID NO:258,SEQ ID NO:262,SEQ ID NO:266, SEQ ID NO:270, SEQ ID NO:274, SEQ ID NO:278 and SEQ ID NO:282.

3. An isolated nucleic acid selected from the group consisting of SEQ ID NO: 3, SEQ ID NO: 7, SEQ ID NO: 11, SEQ ID NO: 15, SEQ ID NO: 19, SEQ ID NO: 23, SEQ ID NO: 27, SEQ ID NO: 31, SEQ ID NO: 35, SEQ ID NO: 39, SEQ ID NO: 43, SEQ ID NO: 47, SEQ ID NO: 51, SEQ ID NO:55, SEQ ID NO:59, SEQ ID NO:63, SEQ ID NO:67, SEQ ID NO:71, SEQ ID NO:75, SEQ ID NO:79, SEQ ID NO:83, SEQ ID NO:87, SEQ ID NO:91, SEQ ID NO:95, SEQ ID NO:99, SEQ ID NO:103, SEQ ID NO:107, SEQ ID NO:111, SEQ ID NO:115, SEQ ID NO:119, SEQ ID NO:123, SEQ ID NO:127; SEQ ID NO:131; SEQ ID NO:135, SEQ ID NO:139, SEQ ID NO:143, SEQ ID NO:147, SEQ ID NO:151, SEQ ID NO:155, SEQ ID NO:159, SEQ ID NO:163, SEQ ID NO:167, SEQ ID NO:171, SEQ ID NO:175, SEQ ID NO:179, SEQ ID NO:183, SEQ ID NO:187, SEQ ID NO:191, SEQ ID NO:195, SEQ ID NO:199, SEQ ID NO:203, SEQ ID NO:207, SEQ ID NO:211, SEQ ID NO:215, SEQ ID NO:219, SEQ ID NO:223, SEQ ID NO:227, SEQ ID NO:231, SEQ ID NO:235,SEQ ID NO:239, SEQ ID NO:243, SEQ ID NO:247, SEQ ID NO:251, SEQ ID NO:255, SEQ ID NO:25, SEQ ID NO:263, SEQ ID NO:267, SEQ ID NO:271, SEQ ID NO:275, SEQ ID NO:279 and ID NO:283.

4. An isolated polypeptide selected from the group consisting of SEQ ID NO: 4, SEQ ID NO: 8, SEQ ID NO: 12, SEQ ID NO: 16, SEQ ID NO: 20, SEQ ID NO: 24, SEQ ID NO: 28, SEQ ID NO: 32, SEQ ID NO: 36, SEQ ID

NO: 40, SEQ ID NO: 44, SEQ ID NO: 48, SEQ ID NO: 52, SEQ ID NO:56, SEQ ID NO:60, SEQ ID NO:64, SEQ ID NO:68, SEQ ID NO:72, SEQ ID NO:76, SEQ ID NO:80, SEQ ID NO:84, SEQ ID NO:88, SEQ ID NO:92, SEQ ID NO:96, SEQ ID NO:100, SEQ ID NO:104, SEQ ID NO:108, SEQ ID NO:112, SEQ ID NO:116, SEQ ID NO:120, SEQ ID NO:124, SEQ ID NO:128, SEQ ID NO:132, SEQ ID NO:136, SEQ ID NO:140, SEQ ID NO:144, SEQ ID NO:148, SEQ ID NO:152, SEQ ID NO:156, SEQ ID NO:160, SEQ ID NO:164, SEQ ID NO:168, SEQ ID NO:172, SEQ ID NO:176, SEQ ID NO:180, SEQ ID NO:184, SEQ ID NO:188, SEQ ID NO:192, SEQ ID NO:196, SEQ ID NO:200, SEQ ID NO:204, SEQ ID NO:208, SEQ ID NO:212, SEQ ID NO:216, SEQ ID NO:220, SEQ ID NO:224, SEQ ID NO:228, SEQ ID NO:232, SEQ ID NO:236, SEQ ID NO:240, SEQ ID NO:244, SEQ ID NO:248, SEQ ID NO:252, SEQ ID NO:256, SEQ ID NO:260, SEQ ID NO:264, SEQ ID NO:268, SEQ ID NO:272, SEQ ID NO:276, SEQ ID NO:280 and SEQ ID NO:284.

5. An isolated polypeptide encoded by a nucleic acid of claim 1.

6. An isolated polypeptide encoded by a nucleic acid of claim 3.

7. An immunogenic or antigenic composition comprising at least one of the polypeptides of claim 2.

8. An immunogenic or antigenic composition comprising at least one of the polypeptides of claim 4.

9. A fusion protein comprising at least one of the polypeptides of claim 2.

10. A fusion protein comprising at least one of the polypeptides of claim 4.

11. A method of preventing envenomation from scorpion stings comprising administering to a mammal an antigenic composition comprising at least one polypeptide of claim 2 or a fusion protein thereof.

12. The method of claim 11 wherein said administering is carried out by intravenous, subcutaneous, intramuscular, intravaginal, intraperitoneal, intranasal, oral or other mucous routes.

13. A method of preventing envenomation from scorpion stings comprising administering to a mammal an antigenic composition comprising at least one polypeptide of claim 4 or a fusion protein thereof.

14. The method of claim 13 wherein said administering is carried out by intravenous, subcutaneous, intramuscular, intravaginal, intraperitoneal, intranasal, oral or other mucous routes.

15. A method of producing antibodies against a scorpion venom comprising injecting an antibody-producing amount of an antigenic composition comprising at least one polypeptide of claim 2 or a fusion protein thereof into a mammal.

16. The method of claim 15 wherein said antibodies are neutralizing antibodies.

17. A method of producing antibodies against a scorpion venom comprising injecting an antibody-producing amount of an antigenic composition comprising at least one polypeptide of claim 4 or a fusion protein thereof into a mammal.

18. The method of claim 17 wherein said antibodies are neutralizing antibodies.

19. A composition comprising the antibodies of claim 16 or antigen binding fragments thereof wherein said composition neutralizes the *in vivo* effect of scorpion venom.

20. A composition comprising the antibodies of claim 18 wherein said composition neutralizes the *in vivo* effect of scorpion venom.

21. A composition comprising at least on polyeptide of claim 2 or fusion proteins thereof bound to a substrate wherein said composition binds antibodies raised against *Centruroides* scorpion venom or raised against *Centruroides* venom enriched with a recombinant polypeptide of claim 2.

22. The composition of claim 21 wherein said composition is an immunogenic matrix.

23. The composition of claim 21 wherein said polypetide is bound covalently or through hyrdophobic or hydrophilic interactions to said substrate.

24. The composition of claim 21, wherein said substrate is selected from the group consisting of polyacrylamide, polyvinyl, activated aldehyde agaraose, sepharose and carboxymethyl cellulose.

25. A composition comprising at least one polypeptide of claim 4 bound to a substrate wherein said composition binds antibodies raised against *Centruroides* venom or raised against *Centruroides* venom enriched with a recombinant polypeptide of claim 4.

26. The composition of claim 25 wherein said composition is an immunogenic matrix.

27. The composition of claim 25 wherein said polypetide is bound covalently or through hyrdophobic or hydrophilic interactions to said substrate.

28. The composition of claim 25, wherein said substrate is selected from the group consisting of polyacrylamide, polyvinyl, activated aldehyde agaraose, sepharose and carboxymethyl cellulose.

29. A method of treating envenomation from scorpion stings comprising administering to a mammal in need of such treatment neutralizing antibodies obtained from a mammal previously immunized with an antibody-producing amount of an antigenic composition comprising at least one polypeptide of claim 2 or a fusion protein thereof.

30. A method of treating envenomation from scorpion stings comprising administering to a mammal in need of such treatment neutralizing antibodies obtained from a mammal previously immunized with an antibody-producing amount of an antigenic composition comprising at least one polypeptide of claim 4 or a fusion protein thereof.

31. An isolated nucleic acid sequence encoding a polypeptide of claim 2.

32. An isolated nucleic acid sequence encoding a polypeptide of claim 4.

33. The method of any one of claims 11, 13, 15, or 17 wherein said scorpion is from the genus *Centruroides*.

34. The method of claim 19 or 20 further comprising recovering said antibodies from said mammal.

35. The composition of claims 19 or 20 wherein said scorpion venom is from the genus *Centruroides.*

36. The method of claim 33 wherein said scorpion is from a species selected from the group consisting of *C. exiilcauda, C. limpidus limpidus, C. noxius, C. elegans, C. gracilis, S.sculpturatus and C. exilicauda.*

37. The composition of claim 35 wherein said scorpion is from a species selected from the group consisting of *C. exiilcauda, C. limpidus limpidus, C. noxius, C. elegans, C. gracilis, S. sculpturatus and C. exilicauda.*

38. A method of preventing envenomation from scorpion stings comprising administering to a mammal an antigenic composition comprising at least one polypeptide or a fusion protein thereof wherein said polypeptide is encoded by a DNA of claim 1.

39. A method of preventing envenomation from scorpion stings comprising administering to a mammal an antigenic composition comprising at least one polypeptide or a fusion protein thereof wherein said polypeptide is encoded by a DNA of claim 3.

40. The composition of claim 21 wherein said composition binds antibodies against scorpion venom toxin from a specific *Centruroides* species.

41. A diagnostic device comprising the composition of claim 40.

42. A diagnostic method to determine the species of scorpion that has stung an individual comprising:

a) contacting the diagnostic device of claim 41 with a sample from a stung individual, and

b) detecting the presence of antibodies.

43. The composition of claim 25 wherein said composition binds antibodies against scorpion venom toxin from a specific *Centruroides* species.

44. A diagnostic device comprising the composition of claim 43.

45. A diagnostic method to determine the species of scorpion that has stung an individual comprising:

a) contacting the diagnostic device of claim 43 with a sample from a stung individual, and

b) detecting the presence of antibodies.

46. The method of claim 42 or 45 wherein said antibodies are species-specific antibodies.